Remarks

The various parts of the Office Action (and other matters, if any) are discussed below under appropriate headings.

Allowable Subject Matter

Claims 5, 11-14, 20 and 24 were objected to as being dependent upon rejected base claims, but were indicated to contain allowable subject matter. Claim 5 has been rewritten as an independent claim. In addition, claim 20 has been rewritten as an independent claim. Accordingly, independent claims 5 and 20 are now in condition for allowance.

Declaration Under 37 C.F.R. §1.132

Included with this reply is a Declaration Under 37 C.F.R. §1.132 that is signed by inventors, Joseph A. Izatt and Andrew M. Rollins. Attempts to contact the third inventor, Volker Westphal, were unsuccessful as he no longer resides in this country.

The Declaration Under 37 C.F.R. §1.132 establishes that Joseph A. Izatt, Andrew M. Rollins and Volker Westphal are joint inventors in the present application, as well as co-authors of the published papers entitled *Quantitative OCT Image Correction Using Fermat's Principle and Mapping Arrays*, Proceedings of SPIE Vol. 4619, p. 54-58 (June, 2002), and *Correction of Geometric and Refractive Image Distortions in Optical Coherence Tomography Applying Fermat's Principle*, Optics Express, 10 (9), 397-404 (May 6, 2002).

In addition, the Declaration Under 37 C.F.R. §1.132 establishes that each of the above-identified published papers describes the work of Joseph A. Izatt, Andrew M. Rollins and Volker Westphal, and that Joseph A. Izatt, Andrew M. Rollins and Volker Westphal invented the subject matter disclosed and claimed in each of the above-identified published papers.

As is discussed below, based upon their respective publication dates, both of the above-identified Westphal et al. publications, would be properly considered to be references under 35 U.S.C. §102(a), but not under 35 U.S.C. §102(b). Because both of the above-identified Westphal et al. publications qualify as prior art under 35 U.S.C. §102(a), the Declaration Under 37 C.F.R. §1.132 is sufficient to remove both of the

above-identified Westphal et al. publications as references against the present application. See MPEP §715.01(c) and §716.10.

Claim Rejections - 35 USC § 102 and § 103

Claims 1-4, 6-10, 15-19 and 25 were rejected under 35 U.S.C. §102(b) as being anticipated by Westphal et al. (*Quantitative OCT Image Correction Using Fermat's Principle and Mapping Array*). Page 2 of the office action asserts that this article has a publication date of January 21, 2002. It is respectfully submitted that this article was published in June, 2002. Attached is a printout from the SPIE website that shows this article to have a June, 2002 publication date. Even assuming *arguendo* that the publication date of the article is January, 2002, this article should not be considered to be prior art under §102(b) for at least the reasons provided below.

It is respectfully submitted that a rejection under 35 U.S.C. §102(b) is improper. Rather, the rejection should have been made under 35 U.S.C. §102(a) based on the publication date of the Westphal et al. article. The effective filing date of the present application is July 12, 2002 because the present application properly claims benefit of U.S. Provisional Application Serial No. 60/395,597, filed July 12, 2002. The benefit of the July 12, 2002 filing date of the '597 provisional application is indicated on the filing receipt issued in connection with the present application. Therefore, even assuming *arguendo* that the publication date of the article is January, 2002, this date does not precede the July 12, 2002 effective filing date by more than one year.

The Westphal et al. publication entitled *Quantitative OCT Image Correction Using Fermat's Principle and Mapping Array* is a part of each of the rejections (under §102 and §103) in the present office action. Because the Declaration Under 37 C.F.R. §1.132 removes both of the above-identified Westphal et al. publications as references against the present application, all of the outstanding rejections should be withdrawn.

Conclusion

In view of the foregoing, request is made for timely issuance of a notice of allowance.

Respectfully submitted,

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Abstract

PUBLICATIONS

Quantitative OCT image correction using Fermat's principle and mapping arrays

Westphal, Volker, Radhakrishnan, Sumita, Rollins, Andrew M., Case Western Reserve Univ.; Izatt, Joseph A., Duke Univ.

Publication: Proc. SPIE Vol. 4619, p. 54-58, Coherence Domain Optical Methods in Biomedical Science and Clinical Applications VI, Valery V. Tuchin; Joseph A. Izatt; James G. Fujimoto; Eds.

Publication Date: 6/2002

Abstract:
Optical coherence tomography (OCT) is a relatively new developed technique to image tissue microstructure in vivo with a resolution of about 10 micrometers . So far, the research has focused on increasing the resolution, increasing the acquisition rate, developing new sample arm scanning techniques, or functional imaging like color Doppler OCT. But one of the main advantages of OCT compared to ultrasound, non-contact imaging, also results in a mayor image distortion: refraction at the air-tissue interface. Also, applied scanning configurations can lead to deformed images. Both errors prevent accurate distance and angle measurements on OCT images, necessary e.g. for Glaucoma diagnosis in the anterior segment of the eye. We describe a methodology for quantitative image correction in OCT which includes procedures for correction of arbitrary spatial warping caused by non-uniform axial reference and lateral sample scan patterns, as well as a novel approach for refraction correction in layered media based on Fermat's principle. The de-warping corrections are implemented in real-time by use of pointer (mapping) arrays, while the refraction correction algorithm is more computationally intensive and is performed off-line.